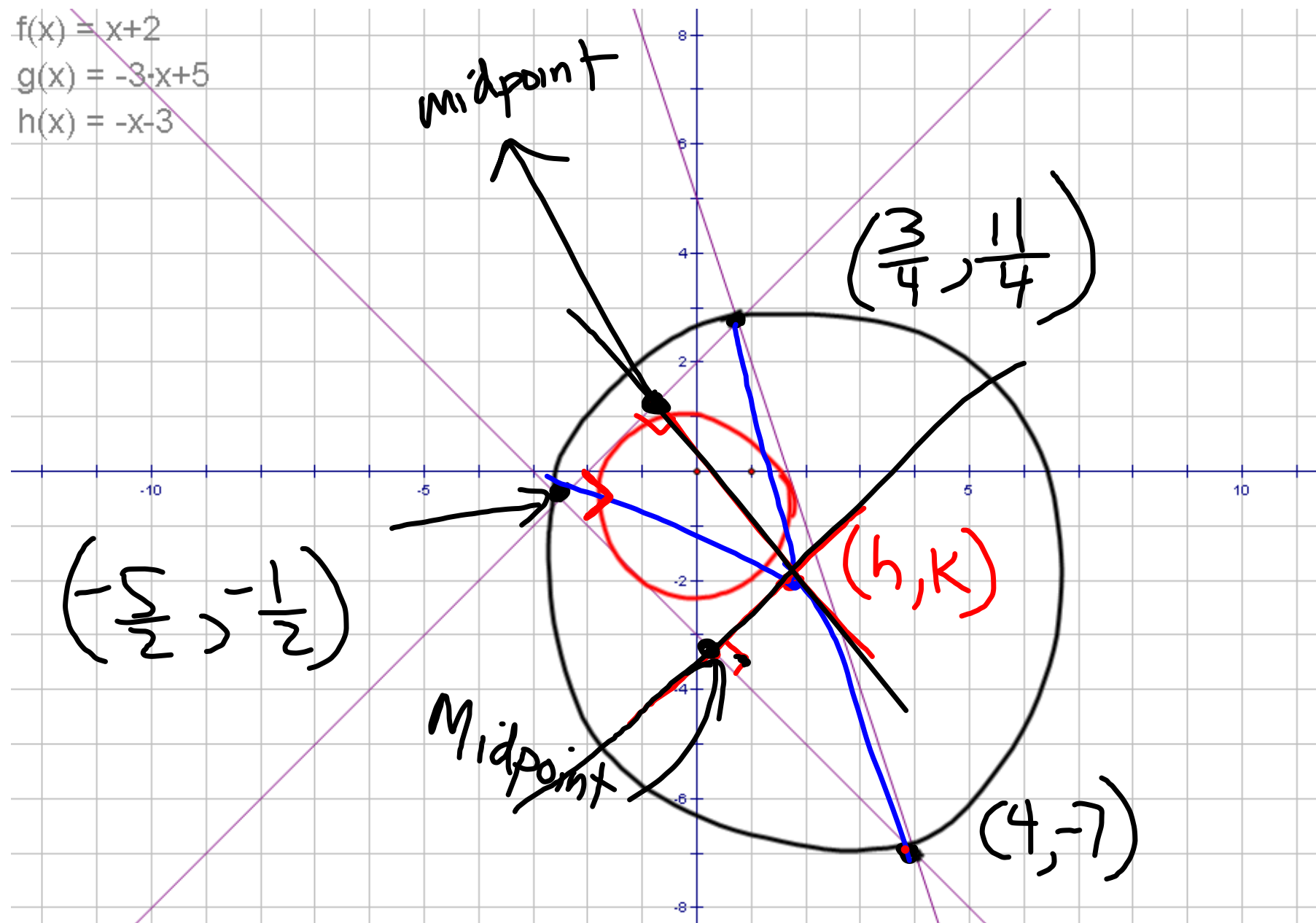


$$\begin{aligned} f(x) &= x+2 \\ g(x) &= -3x+5 \\ h(x) &= -x-3 \end{aligned}$$



- ① finish problem
- ② Use distances to solve
- ③ Find the equation of the inscribed circle

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Midpoint

$$\left( \frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$$

$$\left(-\frac{5}{2}, -\frac{1}{2}\right)$$

$$(h, k)$$

$$\rightarrow (4, -7)$$

$$\rightarrow \left(\frac{3}{4}, \frac{11}{4}\right)$$

$$M\left(\frac{19}{8}, -\frac{17}{8}\right)$$

$$r = \frac{\sqrt{1690}}{8}$$

center

$$\sqrt{(4-.75)^2 + (-7-2.75)^2} =$$

$$\text{diameter} = \sqrt{\frac{169}{16} + \frac{1521}{16}} = \frac{\sqrt{1690}}{4}$$

$$\left(x - \frac{19}{8}\right)^2 + \left(y + \frac{17}{8}\right)^2 = \frac{1690}{64}$$

$$\sqrt{9+4}$$

$$3+2$$